

SAFETY DATA SHEET



HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	: HaloPlex HS Target Enrichment Kits - ION - 96 reactions	
Part no. (chemical kit)	: G9932B, G9942B	
Part no.	:	RE Buffer 5190-7972 BSA Solution 5190-7973 Enrichment Control DNA 5190-7976 Hybridization Solution 5190-7977 HS Hybridization Stop Solution 5190-7978 10 mM rATP 5190-7979 HS Ligation Solution 5190-7980 HS DNA Ligase 5190-7981 HS Capture Solution 5190-7982 HS Wash 1 Solution 5190-7983 HS Wash 2 Solution 5190-7986 Primer 1 ION 5190-7813 Primer 2 ION 5190-7814 HS Elution Buffer 5190-7989 Herculase II Fusion DNA Polymerase 5190-7990 Herculase II Reaction Buffer 5190-7991 100 mM dNTP Mix 5190-7992 HaloPlex HS ION Indexing Plate 5190-8834 Enzyme Strip 1 5190-7974 Enzyme Strip 2 5190-7975 HaloPlex HS Probe ION 5190-7871 / 5190-7873 / 5190-7875 / 5190-7877

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	:	Analytical reagent. RE Buffer 3.3 ml (96 reactions) BSA Solution 0.07 ml (96 reactions) Enrichment Control DNA 0.615 ml (96 reactions) Hybridization Solution 4.9 ml (96 reactions) HS Hybridization Stop Solution 4 ml (96 reactions) 10 mM rATP 0.04 ml (96 reactions) HS Ligation Solution 1.5 ml (96 reactions) HS DNA Ligase 0.36 ml (96 reactions) HS Capture Solution 5.4 ml (96 reactions) HS Wash 1 Solution 13.4 ml (96 reactions) HS Wash 2 Solution 2 x 11 ml (96 reactions) Primer 1 ION 0.575 ml (96 reactions) Primer 2 ION 1.15 ml (96 reactions) HS Elution Buffer 6.1 ml (96 reactions) Herculase II Fusion DNA Polymerase 0.575 ml (96 reactions) Herculase II Reaction Buffer 4.3 ml (96 reactions) 100 mM dNTP Mix 0.115 ml (96 reactions) HaloPlex HS ION Indexing Plate 48 x 0.015 ml Enzyme Strip 1 0.05 ml (96 reactions) Enzyme Strip 2 0.05 ml (96 reactions) HaloPlex HS Probe ION 0.714 ml (96 reactions)
Uses advised against	:	None known.

1.3 Details of the supplier of the safety data sheet

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Agilent Technologies LDA UK Ltd.
 5500 Lakeside Cheadle Royal Business Park,
 Cheadle, Cheshire, SK8 3GR
 United Kingdom
 Tel: +44 (0) 345 712 5292
 0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	:	RE Buffer	Mixture
		BSA Solution	Mixture
		Enrichment Control DNA	Mixture
		Hybridization Solution	Mixture
		HS Hybridization Stop Solution	Mixture
		10 mM rATP	Mixture
		HS Ligation Solution	Mixture
		HS DNA Ligase	Mixture
		HS Capture Solution	Mixture
		HS Wash 1 Solution	Mixture
		HS Wash 2 Solution	Mixture
		Primer 1 ION	Mixture
		Primer 2 ION	Mixture
		HS Elution Buffer	Mixture
		Herculase II Fusion DNA Polymerase	Mixture
		Herculase II Reaction Buffer	Mixture
		100 mM dNTP Mix	Mixture
		HaloPlex HS ION	Mixture
		Indexing Plate	
		Enzyme Strip 1	Mixture
		Enzyme Strip 2	Mixture
		HaloPlex HS Probe ION	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Hybridization Solution

H351	CARCINOGENICITY	Category 2
H360D	REPRODUCTIVE TOXICITY	Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

Ingredients of unknown toxicity	:	RE Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
		BSA Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
			Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
			Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
			Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%


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Hybridization Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
HS Hybridization Stop Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
HS Ligation Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
HS DNA Ligase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
HS Capture Solution	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
Herculase II Fusion DNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Herculase II Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
100 mM dNTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%
Enzyme Strip 1	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Enzyme Strip 2	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Ingredients of unknown ecotoxicity : BSA Solution	Contains 1% of components with unknown hazards to the aquatic environment
HS Ligation Solution	Contains 1.1% of components with unknown hazards to the aquatic environment
100 mM dNTP Mix	Contains 5.4% of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :  Hybridization Solution

Signal word :

BE Buffer	No signal word.
BSA Solution	No signal word.
Enrichment Control DNA	No signal word.
Hybridization Solution	Danger
HS Hybridization Stop Solution	No signal word.
10 mM rATP	No signal word.
HS Ligation Solution	No signal word.
HS DNA Ligase	No signal word.
HS Capture Solution	No signal word.
HS Wash 1 Solution	No signal word.
HS Wash 2 Solution	No signal word.
Primer 1 ION	No signal word.
Primer 2 ION	No signal word.
HS Elution Buffer	No signal word.
Herculase II Fusion DNA Polymerase	No signal word.
Herculase II Reaction Buffer	No signal word.

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	100 mM dNTP Mix	No signal word.
	HaloPlex HS ION	No signal word.
	Indexing Plate	
	Enzyme Strip 1	No signal word.
	Enzyme Strip 2	No signal word.
	HaloPlex HS Probe ION	No signal word.
Hazard statements	RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	H351 - Suspected of causing cancer. H360D - May damage the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION	No known significant effects or critical hazards.
	Indexing Plate	
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
	HaloPlex HS Probe ION	No known significant effects or critical hazards.

Precautionary statements

Prevention

	RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapour.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION	Not applicable.
	Indexing Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.

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Response	: <input checked="" type="checkbox"/> RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	P308 + P313 - IF exposed or concerned: Get medical advice or attention.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION Indexing Plate	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.
Storage	: <input checked="" type="checkbox"/> RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Not applicable.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION Indexing Plate	Not applicable.
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.
Disposal	: <input checked="" type="checkbox"/> RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.

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HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION	Not applicable.
Indexing Plate	
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.
RE Buffer	Not applicable.
BSA Solution	Safety data sheet available on request.
Enrichment Control DNA	Not applicable.
Hybridization Solution	Not applicable.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Safety data sheet available on request.
HS Capture Solution	Safety data sheet available on request.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Safety data sheet available on request.
Herculase II Reaction Buffer	Safety data sheet available on request.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION	Not applicable.
Indexing Plate	
Enzyme Strip 1	Safety data sheet available on request.
Enzyme Strip 2	Safety data sheet available on request.
HaloPlex HS Probe ION	Not applicable.
RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Hybridization Solution	Restricted to professional users.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION	Not applicable.
Indexing Plate	
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.

Supplemental label elements

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

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HaloPlex HS Probe ION Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : RE Buffer Not applicable.
 BSA Solution Not applicable.
 Enrichment Control DNA Not applicable.
 Hybridization Solution Not applicable.
 HS Hybridization Stop Solution Not applicable.
 10 mM rATP Not applicable.
 HS Ligation Solution Not applicable.
 HS DNA Ligase Not applicable.
 HS Capture Solution Not applicable.
 HS Wash 1 Solution Not applicable.
 HS Wash 2 Solution Not applicable.
 Primer 1 ION Not applicable.
 Primer 2 ION Not applicable.
 HS Elution Buffer Not applicable.
 Herculanase II Fusion DNA Polymerase Not applicable.
 Herculanase II Reaction Buffer Not applicable.
 100 mM dNTP Mix Not applicable.
 HaloPlex HS ION Indexing Plate Not applicable.
 Enzyme Strip 1 Not applicable.
 Enzyme Strip 2 Not applicable.
 HaloPlex HS Probe ION Not applicable.

Tactile warning of danger : RE Buffer Not applicable.
 BSA Solution Not applicable.
 Enrichment Control DNA Not applicable.
 Hybridization Solution Not applicable.
 HS Hybridization Stop Solution Not applicable.
 10 mM rATP Not applicable.
 HS Ligation Solution Not applicable.
 HS DNA Ligase Not applicable.
 HS Capture Solution Not applicable.
 HS Wash 1 Solution Not applicable.
 HS Wash 2 Solution Not applicable.
 Primer 1 ION Not applicable.
 Primer 2 ION Not applicable.
 HS Elution Buffer Not applicable.
 Herculanase II Fusion DNA Polymerase Not applicable.
 Herculanase II Reaction Buffer Not applicable.
 100 mM dNTP Mix Not applicable.
 HaloPlex HS ION Indexing Plate Not applicable.
 Enzyme Strip 1 Not applicable.
 Enzyme Strip 2 Not applicable.
 HaloPlex HS Probe ION Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : RE Buffer This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 BSA Solution This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 Enrichment Control DNA This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
 Hybridization Solution This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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HS Hybridization Stop Solution 10 mM rATP	This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Ligation Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS DNA Ligase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Capture Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Wash 1 Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Wash 2 Solution	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 1 ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Primer 2 ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HS Elution Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Herculase II Fusion DNA Polymerase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Herculase II Reaction Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
100 mM dNTP Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HaloPlex HS ION Indexing Plate	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 1	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Enzyme Strip 2	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
HaloPlex HS Probe ION	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
RE Buffer	None known.
BSA Solution	None known.
Enrichment Control DNA	None known.
Hybridization Solution	None known.
HS Hybridization Stop Solution	None known.
10 mM rATP	None known.
HS Ligation Solution	None known.
HS DNA Ligase	None known.
HS Capture Solution	None known.
HS Wash 1 Solution	None known.
HS Wash 2 Solution	None known.
Primer 1 ION	None known.
Primer 2 ION	None known.
HS Elution Buffer	None known.
Herculase II Fusion DNA Polymerase	None known.
Herculase II Reaction Buffer	None known.
100 mM dNTP Mix	None known.
HaloPlex HS ION Indexing Plate	None known.
Enzyme Strip 1	None known.
Enzyme Strip 2	None known.
HaloPlex HS Probe ION	None known.

Other hazards which do not result in classification

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Substances identified as having endocrine disruptor properties	Ingredient name	Impact
	HS DNA Ligase Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Environment

SECTION 3: Composition/information on ingredients

3.1 Substances	RE Buffer	Mixture
	BSA Solution	Mixture
	Enrichment Control DNA	Mixture
	Hybridization Solution	Mixture
	HS Hybridization Stop Solution	Mixture
	10 mM rATP	Mixture
	HS Ligation Solution	Mixture
	HS DNA Ligase	Mixture
	HS Capture Solution	Mixture
	HS Wash 1 Solution	Mixture
	HS Wash 2 Solution	Mixture
	Primer 1 ION	Mixture
	Primer 2 ION	Mixture
	HS Elution Buffer	Mixture
	Herculase II Fusion DNA Polymerase	Mixture
	Herculase II Reaction Buffer	Mixture
	100 mM dNTP Mix	Mixture
	HaloPlex HS ION Indexing Plate	Mixture
	Enzyme Strip 1	Mixture
	Enzyme Strip 2	Mixture
	HaloPlex HS Probe ION	Mixture

Product/ingredient name	Identifiers	%	Classification	Type
BSA Solution Glycerol	EC: 200-289-5 CAS: 56-81-5	≤10	Not classified.	[1]
Hybridization Solution Formamide	EC: 200-842-0 CAS: 75-12-7	≥25 - ≤50	Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373 (blood) (oral)	[1] [2]
HS DNA Ligase Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	<0.25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	[1] [3]
HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	EC: 205-358-3 CAS: 6381-92-6	<10	Acute Tox. 4, H332 STOT RE 2, H373 (respiratory tract) (inhalation)	[1]
Herculase II Fusion DNA Polymerase Glycerol	EC: 200-289-5	≥50 - ≤75	Not classified.	[1]

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Herculase II Reaction Buffer Ammonium sulphate	CAS: 56-81-5 EC: 231-984-1 CAS: 7783-20-2	≤3	Eye Irrit. 2, H319	[1]
Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
Enzyme Strip 1 Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
Enzyme Strip 2 Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
			See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

BSA Solution	[1] Substance with a workplace exposure limit
Hybridization Solution	[1] Substance classified with a health or environmental hazard
HS DNA Ligase	[2] Substance with a workplace exposure limit [1] Substance classified with a health or environmental hazard
HS Capture Solution	[2] Substance with a workplace exposure limit [3] Substance of equivalent concern
Herculase II Fusion DNA Polymerase	[1] Substance classified with a health or environmental hazard
Herculase II Reaction Buffer	[1] Substance with a workplace exposure limit
Enzyme Strip 1	[1] Substance classified with a health or environmental hazard
Enzyme Strip 2	[1] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: RE Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	BSA Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Enrichment Control DNA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Hybridization Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	HS Hybridization Stop Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	10 mM rATP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HS Ligation Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	HS DNA Ligase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

SECTION 4: First aid measures

HS Capture Solution	any contact lenses. Get medical attention if irritation occurs. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
HS Wash 1 Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
HS Wash 2 Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Primer 1 ION	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Primer 2 ION	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
HS Elution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Herculase II Fusion DNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Herculase II Reaction Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
100 mM dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
HaloPlex HS ION Indexing Plate	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Enzyme Strip 1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Enzyme Strip 2	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
HaloPlex HS Probe ION	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	
: RE Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
BSA Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Enrichment Control DNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Hybridization Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HS Hybridization Stop	Remove victim to fresh air and keep at rest in a position

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Solution	comfortable for breathing. Get medical attention if symptoms occur.
10 mM rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Ligation Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Capture Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HS Wash 1 Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Wash 2 Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Primer 1 ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Primer 2 ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HS Elution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Herculase II Fusion DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Herculase II Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HaloPlex HS ION Indexing Plate	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Enzyme Strip 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Enzyme Strip 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
HaloPlex HS Probe ION	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	
: RE Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
BSA Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Enrichment Control DNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if

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Hybridization Solution	symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
HS Hybridization Stop Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
10 mM rATP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Ligation Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS DNA Ligase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Capture Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Wash 1 Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Wash 2 Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Primer 1 ION	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Primer 2 ION	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HS Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Herculase II Fusion DNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Herculase II Reaction Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
100 mM dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HaloPlex HS ION Indexing Plate	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Enzyme Strip 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Enzyme Strip 2	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
HaloPlex HS Probe ION	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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Ingestion	: RE Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	BSA Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Enrichment Control DNA	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Hybridization Solution	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	HS Hybridization Stop Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	10 mM rATP	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	HS Ligation Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	HS DNA Ligase	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	HS Capture Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	HS Wash 1 Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	HS Wash 2 Solution	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Primer 1 ION	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do

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	so by medical personnel. Get medical attention if symptoms occur.
Primer 2 ION	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HS Elution Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Herculase II Fusion DNA Polymerase	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Herculase II Reaction Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
100 mM dNTP Mix	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex HS ION Indexing Plate	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 1	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Enzyme Strip 2	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
HaloPlex HS Probe ION	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders : RE Buffer	No action shall be taken involving any personal risk or without suitable training.
BSA Solution	No action shall be taken involving any personal risk or without suitable training.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
HS Hybridization Stop Solution	No action shall be taken involving any personal risk or without suitable training.
10 mM rATP	No action shall be taken involving any personal risk or without suitable training.

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HS Ligation Solution	No action shall be taken involving any personal risk or without suitable training.
HS DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
HS Capture Solution	No action shall be taken involving any personal risk or without suitable training.
HS Wash 1 Solution	No action shall be taken involving any personal risk or without suitable training.
HS Wash 2 Solution	No action shall be taken involving any personal risk or without suitable training.
Primer 1 ION	No action shall be taken involving any personal risk or without suitable training.
Primer 2 ION	No action shall be taken involving any personal risk or without suitable training.
HS Elution Buffer	No action shall be taken involving any personal risk or without suitable training.
Herculase II Fusion DNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
Herculase II Reaction Buffer	No action shall be taken involving any personal risk or without suitable training.
100 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
HaloPlex HS ION Indexing Plate	No action shall be taken involving any personal risk or without suitable training.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training.
HaloPlex HS Probe ION	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact

: RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA	No specific data.
Hybridization Solution	No specific data.
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION Indexing Plate	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

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Solution	
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

: RE Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
BSA Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Enrichment Control DNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Hybridization Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HS Hybridization Stop Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
10 mM rATP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HS Ligation Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HS DNA Ligase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HS Capture Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HS Wash 1 Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HS Wash 2 Solution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Primer 1 ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Primer 2 ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
HS Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Herculase II Fusion DNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Herculase II Reaction Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM dNTP Mix	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
HaloPlex HS ION	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Indexing Plate	

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Specific treatments	:	<p>Enzyme Strip 1 Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>Enzyme Strip 2 Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>HaloPlex HS Probe ION Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</p> <p>RE Buffer No specific treatment.</p> <p>BSA Solution No specific treatment.</p> <p>Enrichment Control DNA No specific treatment.</p> <p>Hybridization Solution No specific treatment.</p> <p>HS Hybridization Stop Solution No specific treatment.</p> <p>10 mM rATP No specific treatment.</p> <p>HS Ligation Solution No specific treatment.</p> <p>HS DNA Ligase No specific treatment.</p> <p>HS Capture Solution No specific treatment.</p> <p>HS Wash 1 Solution No specific treatment.</p> <p>HS Wash 2 Solution No specific treatment.</p> <p>Primer 1 ION No specific treatment.</p> <p>Primer 2 ION No specific treatment.</p> <p>HS Elution Buffer No specific treatment.</p> <p>Herculase II Fusion DNA Polymerase No specific treatment.</p> <p>Herculase II Reaction Buffer No specific treatment.</p> <p>100 mM dNTP Mix No specific treatment.</p> <p>HaloPlex HS ION No specific treatment.</p> <p>Indexing Plate No specific treatment.</p> <p>Enzyme Strip 1 No specific treatment.</p> <p>Enzyme Strip 2 No specific treatment.</p> <p>HaloPlex HS Probe ION No specific treatment.</p>
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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	<p>RE Buffer Use an extinguishing agent suitable for the surrounding fire.</p> <p>BSA Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>Enrichment Control DNA Use an extinguishing agent suitable for the surrounding fire.</p> <p>Hybridization Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Hybridization Stop Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>10 mM rATP Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Ligation Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS DNA Ligase Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Capture Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Wash 1 Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Wash 2 Solution Use an extinguishing agent suitable for the surrounding fire.</p> <p>Primer 1 ION Use an extinguishing agent suitable for the surrounding fire.</p> <p>Primer 2 ION Use an extinguishing agent suitable for the surrounding fire.</p> <p>HS Elution Buffer Use an extinguishing agent suitable for the surrounding fire.</p> <p>Herculase II Fusion DNA Polymerase Use an extinguishing agent suitable for the surrounding fire.</p> <p>Herculase II Reaction Buffer Use an extinguishing agent suitable for the surrounding fire.</p> <p>100 mM dNTP Mix Use an extinguishing agent suitable for the surrounding fire.</p> <p>HaloPlex HS ION Use an extinguishing agent suitable for the surrounding fire.</p> <p>Indexing Plate Use an extinguishing agent suitable for the surrounding fire.</p> <p>Enzyme Strip 1 Use an extinguishing agent suitable for the surrounding fire.</p> <p>Enzyme Strip 2 Use an extinguishing agent suitable for the surrounding fire.</p> <p>HaloPlex HS Probe ION Use an extinguishing agent suitable for the surrounding fire.</p>
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Unsuitable extinguishing media	: RE Buffer	None known.
	BSA Solution	None known.
	Enrichment Control DNA	None known.
	Hybridization Solution	None known.
	HS Hybridization Stop Solution	None known.
	10 mM rATP	None known.
	HS Ligation Solution	None known.
	HS DNA Ligase	None known.
	HS Capture Solution	None known.
	HS Wash 1 Solution	None known.
	HS Wash 2 Solution	None known.
	Primer 1 ION	None known.
	Primer 2 ION	None known.
	HS Elution Buffer	None known.
	Herculase II Fusion DNA Polymerase	None known.
	Herculase II Reaction Buffer	None known.
	100 mM dNTP Mix	None known.
	HaloPlex HS ION Indexing Plate	None known.
	Enzyme Strip 1	None known.
	Enzyme Strip 2	None known.
HaloPlex HS Probe ION	None known.	

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: RE Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	BSA Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Enrichment Control DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
	Hybridization Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Hybridization Stop Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	10 mM rATP	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Ligation Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Capture Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Wash 1 Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Wash 2 Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
	Primer 1 ION	In a fire or if heated, a pressure increase will occur and the container may burst.
	Primer 2 ION	In a fire or if heated, a pressure increase will occur and the container may burst.
	HS Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Herculase II Fusion DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Herculase II Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	HaloPlex HS ION Indexing Plate	In a fire or if heated, a pressure increase will occur and the container may burst.

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Hazardous combustion products

Enzyme Strip 1	In a fire or if heated, a pressure increase will occur and the container may burst.
Enzyme Strip 2	In a fire or if heated, a pressure increase will occur and the container may burst.
HaloPlex HS Probe ION	In a fire or if heated, a pressure increase will occur and the container may burst.
RE Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
BSA Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
Enrichment Control DNA Hybridization Solution	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
HS Hybridization Stop Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide
10 mM rATP	No specific data.
HS Ligation Solution	Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
HS DNA Ligase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
HS Capture Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Herculase II Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
100 mM dNTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
HaloPlex HS ION Indexing Plate	No specific data.
Enzyme Strip 1	Decomposition products may include the following materials: carbon dioxide

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Enzyme Strip 2	carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide
HaloPlex HS Probe ION	No specific data.

5.3 Advice for firefighters**Special protective actions for fire-fighters**

: RE Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
BSA Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Enrichment Control DNA	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Hybridization Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Hybridization Stop Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
10 mM rATP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Ligation Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS DNA Ligase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Capture Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Wash 1 Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Wash 2 Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Primer 1 ION	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Primer 2 ION	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HS Elution Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Herculase II Fusion DNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Herculase II Reaction Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
100 mM dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex HS ION Indexing Plate	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Enzyme Strip 1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be

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Special protective equipment for fire-fighters

Enzyme Strip 2	taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
HaloPlex HS Probe ION	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
: RE Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
BSA Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Enrichment Control DNA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Hybridization Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Hybridization Stop Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
10 mM rATP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Ligation Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS DNA Ligase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Capture Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Wash 1 Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Wash 2 Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Primer 1 ION	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Primer 2 ION	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HS Elution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Herculase II Fusion DNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Herculase II Reaction Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
100 mM dNTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HaloPlex HS ION Indexing Plate	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Enzyme Strip 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full

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Enzyme Strip 2	face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
HaloPlex HS Probe ION	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: RE Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
BSA Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enrichment Control DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Hybridization Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
HS Hybridization Stop Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10 mM rATP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS Ligation Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS DNA Ligase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS Capture Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS Wash 1 Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS Wash 2 Solution	No action shall be taken involving any personal risk or without

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	suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Primer 1 ION	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Primer 2 ION	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HS Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Herculase II Fusion DNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Herculase II Reaction Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
100 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex HS ION Indexing Plate	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Enzyme Strip 2	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
HaloPlex HS Probe ION	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	
: RE Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
BSA Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enrichment Control DNA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and

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	unsuitable materials. See also the information in "For non-emergency personnel".
Hybridization Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Hybridization Stop Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
10 mM rATP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Ligation Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS DNA Ligase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Capture Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Wash 1 Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Wash 2 Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Primer 1 ION	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Primer 2 ION	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HS Elution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Herculase II Fusion DNA Polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Herculase II Reaction Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
100 mM dNTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex HS ION Indexing Plate	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Enzyme Strip 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and

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Enzyme Strip 2	unsuitable materials. See also the information in "For non-emergency personnel". If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
HaloPlex HS Probe ION	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: RE Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
BSA Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enrichment Control DNA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Hybridization Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Hybridization Stop Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10 mM rATP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Ligation Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS DNA Ligase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Capture Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Wash 1 Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Wash 2 Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 1 ION	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Primer 2 ION	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HS Elution Buffer	Avoid dispersal of spilt material and runoff and contact with

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	soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Herculase II Fusion DNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Herculase II Reaction Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM dNTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex HS ION Indexing Plate	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 1	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Enzyme Strip 2	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
HaloPlex HS Probe ION	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : RE Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
BSA Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enrichment Control DNA	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Hybridization Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HS Hybridization Stop Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10 mM rATP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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HS Ligation Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HS DNA Ligase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
HS Capture Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HS Wash 1 Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HS Wash 2 Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Primer 1 ION	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Primer 2 ION	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HS Elution Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Herculase II Fusion DNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Herculase II Reaction Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HaloPlex HS ION Indexing Plate	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Enzyme Strip 1	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and

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Enzyme Strip 2	place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
HaloPlex HS Probe ION	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information.

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7.1 Precautions for safe handling

Protective measures	: RE Buffer	Put on appropriate personal protective equipment (see Section 8).
BSA Solution		Put on appropriate personal protective equipment (see Section 8).
Enrichment Control DNA		Put on appropriate personal protective equipment (see Section 8).
Hybridization Solution		Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
HS Hybridization Stop Solution		Put on appropriate personal protective equipment (see Section 8).
10 mM rATP		Put on appropriate personal protective equipment (see Section 8).
HS Ligation Solution		Put on appropriate personal protective equipment (see Section 8).
HS DNA Ligase		Put on appropriate personal protective equipment (see Section 8).
HS Capture Solution		Put on appropriate personal protective equipment (see Section 8).
HS Wash 1 Solution		Put on appropriate personal protective equipment (see Section 8).
HS Wash 2 Solution		Put on appropriate personal protective equipment (see Section 8).
Primer 1 ION		Put on appropriate personal protective equipment (see Section 8).
Primer 2 ION		Put on appropriate personal protective equipment (see Section 8).
HS Elution Buffer		Put on appropriate personal protective equipment (see Section 8).
Herculase II Fusion DNA Polymerase		Put on appropriate personal protective equipment (see Section 8).
Herculase II Reaction Buffer		Put on appropriate personal protective equipment (see Section 8).
100 mM dNTP Mix		Put on appropriate personal protective equipment (see Section 8).

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	Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
HS Wash 2 Solution	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Primer 1 ION	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Primer 2 ION	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
HS Elution Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Herculase II Fusion DNA Polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Herculase II Reaction Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
HaloPlex HS ION Indexing Plate	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme Strip 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Enzyme Strip 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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HaloPlex HS Probe ION Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: RE Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	BSA Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Enrichment Control DNA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Hybridization Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	HS Hybridization Stop Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	10 mM rATP	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been

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	opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HS Ligation Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HS DNA Ligase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HS Capture Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HS Wash 1 Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HS Wash 2 Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Primer 1 ION	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials

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Primer 2 ION	<p>before handling or use.</p> <p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HS Elution Buffer	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Herculase II Fusion DNA Polymerase	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Herculase II Reaction Buffer	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
100 mM dNTP Mix	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
HaloPlex HS ION Indexing Plate	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Enzyme Strip 1	<p>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see</p>

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Enzyme Strip 2	Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
HaloPlex HS Probe ION	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

: RE Buffer	Industrial applications, Professional applications.
BSA Solution	Industrial applications, Professional applications.
Enrichment Control DNA	Industrial applications, Professional applications.
Hybridization Solution	Industrial applications, Professional applications.
HS Hybridization Stop Solution	Industrial applications, Professional applications.
10 mM rATP	Industrial applications, Professional applications.
HS Ligation Solution	Industrial applications, Professional applications.
HS DNA Ligase	Industrial applications, Professional applications.
HS Capture Solution	Industrial applications, Professional applications.
HS Wash 1 Solution	Industrial applications, Professional applications.
HS Wash 2 Solution	Industrial applications, Professional applications.
Primer 1 ION	Industrial applications, Professional applications.
Primer 2 ION	Industrial applications, Professional applications.
HS Elution Buffer	Industrial applications, Professional applications.
Herculase II Fusion DNA Polymerase	Industrial applications, Professional applications.
Herculase II Reaction Buffer	Industrial applications, Professional applications.
100 mM dNTP Mix	Industrial applications, Professional applications.
HaloPlex HS ION	Industrial applications, Professional applications.
Indexing Plate	
Enzyme Strip 1	Industrial applications, Professional applications.
Enzyme Strip 2	Industrial applications, Professional applications.
HaloPlex HS Probe ION	Industrial applications, Professional applications.

Industrial sector specific solutions

: RE Buffer	Not available.
BSA Solution	Not available.
Enrichment Control DNA	Not available.
Hybridization Solution	Not available.
HS Hybridization Stop Solution	Not available.
10 mM rATP	Not available.
HS Ligation Solution	Not available.

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SECTION 7: Handling and storage

HS DNA Ligase	Not available.
HS Capture Solution	Not available.
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA Polymerase	Not available.
Herculase II Reaction Buffer	Not available.
100 mM dNTP Mix	Not available.
HaloPlex HS ION	Not available.
Indexing Plate	
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.
HaloPlex HS Probe ION	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
BSA Solution Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist
Hybridization Solution Formamide	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 56 mg/m ³ 15 minutes. STEL: 30 ppm 15 minutes. TWA: 37 mg/m ³ 8 hours. TWA: 20 ppm 8 hours.
HS DNA Ligase Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist
Herculase II Fusion DNA Polymerase Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist
Enzyme Strip 1 Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist
Enzyme Strip 2 Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

: Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects	
BSA Solution Glycerol	DNEL	Long term Inhalation	33 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local	
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic	
Hybridization Solution Formamide	DNEL	Long term Dermal	0.952 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	6.6 mg/m ³	Workers	Systemic	
HS DNA Ligase Glycerol	DNEL	Long term Inhalation	33 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local	
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic	
HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	DNEL	Long term Inhalation	0.6 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	1.2 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Local	
	DNEL	Long term Inhalation	1.5 mg/m ³	Workers	Systemic	
	DNEL	Short term Inhalation	3 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	3 mg/m ³	Workers	Systemic	
	DNEL	Long term Oral	25 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Oral	25 mg/kg bw/day	General population	Systemic	
Herculase II Fusion DNA Polymerase Glycerol	DNEL	Long term Inhalation	33 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local	
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic	
Herculase II Reaction Buffer Ammonium sulphate	DNEL	Long term Inhalation	1.667 mg/m ³	General population	Systemic	
	DNEL	Long term Oral	6.4 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	11.167 mg/m ³	Workers	Systemic	
	DNEL	Long term Dermal	12.8 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	42.667 mg/kg bw/day	Workers	Systemic	
	Trometamol	DNEL	Long term Oral	8.3 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	29 mg/m ³	General population	Systemic

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SECTION 8: Exposure controls/personal protection

Enzyme Strip 1 Glycerol	DNEL	Long term Dermal	83.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	117.5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	166.7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	33 mg/m ³	General population	Local
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local
Enzyme Strip 2 Glycerol	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	33 mg/m ³	General population	Local
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

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SECTION 8: Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : RE Buffer Liquid.
 BSA Solution Liquid.
 Enrichment Control DNA Liquid.
 Hybridization Solution Liquid.
 HS Hybridization Stop Solution Liquid.
 10 mM rATP Liquid.
 HS Ligation Solution Liquid.
 HS DNA Ligase Liquid.
 HS Capture Solution Liquid.
 HS Wash 1 Solution Liquid.
 HS Wash 2 Solution Liquid.
 Primer 1 ION Liquid.
 Primer 2 ION Liquid.
 HS Elution Buffer Liquid.
 Herculase II Fusion DNA Polymerase Liquid.
 Herculase II Reaction Buffer Liquid.
 100 mM dNTP Mix Liquid.
 HaloPlex HS ION Indexing Plate Liquid.
 Enzyme Strip 1 Liquid.
 Enzyme Strip 2 Liquid.
 HaloPlex HS Probe ION Liquid.

Colour : RE Buffer Not available.
 BSA Solution Not available.
 Enrichment Control DNA Not available.
 Hybridization Solution Not available.
 HS Hybridization Stop Solution Not available.
 10 mM rATP Not available.
 HS Ligation Solution Not available.
 HS DNA Ligase Not available.
 HS Capture Solution Not available.
 HS Wash 1 Solution Not available.
 HS Wash 2 Solution Not available.
 Primer 1 ION Not available.
 Primer 2 ION Not available.
 HS Elution Buffer Not available.
 Herculase II Fusion DNA Polymerase Not available.
 Herculase II Reaction Buffer Not available.
 100 mM dNTP Mix Not available.
 HaloPlex HS ION Indexing Plate Not available.
 Enzyme Strip 1 Not available.
 Enzyme Strip 2 Not available.
 HaloPlex HS Probe ION Not available.

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SECTION 9: Physical and chemical properties

Odour	:	RE Buffer	Not available.
		BSA Solution	Not available.
		Enrichment Control DNA	Not available.
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	Not available.
		HS Ligation Solution	Not available.
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	Not available.
		HS Wash 2 Solution	Not available.
		Primer 1 ION	Not available.
		Primer 2 ION	Not available.
		HS Elution Buffer	Not available.
		Herculase II Fusion DNA Polymerase	Not available.
		Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix	Not available.
		HaloPlex HS ION Indexing Plate	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.
Odour threshold	:	RE Buffer	Not available.
		BSA Solution	Not available.
		Enrichment Control DNA	Not available.
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	Not available.
		HS Ligation Solution	Not available.
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	Not available.
		HS Wash 2 Solution	Not available.
		Primer 1 ION	Not available.
		Primer 2 ION	Not available.
		HS Elution Buffer	Not available.
		Herculase II Fusion DNA Polymerase	Not available.
		Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix	Not available.
		HaloPlex HS ION Indexing Plate	Not available.
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.
Melting point/freezing point	:	RE Buffer	0°C
		BSA Solution	Not available.
		Enrichment Control DNA	0°C
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	0°C
		HS Ligation Solution	0°C
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	0°C
		HS Wash 2 Solution	0°C
		Primer 1 ION	0°C

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SECTION 9: Physical and chemical properties

	Primer 2 ION	0°C
	HS Elution Buffer	0°C
	Herculase II Fusion DNA	Not available.
	Polymerase	
	Herculase II Reaction	Not available.
	Buffer	
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	0°C
	Indexing Plate	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	0°C
Initial boiling point and boiling range	: RE Buffer	100°C
	BSA Solution	Not available.
	Enrichment Control DNA	100°C
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	100°C
	HS Ligation Solution	100°C
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	100°C
	HS Wash 2 Solution	100°C
	Primer 1 ION	100°C
	Primer 2 ION	100°C
	HS Elution Buffer	100°C
	Herculase II Fusion DNA	Not available.
	Polymerase	
	Herculase II Reaction	Not available.
	Buffer	
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	100°C
	Indexing Plate	
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	100°C
Flammability	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Not applicable.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA	Not applicable.
	Polymerase	
	Herculase II Reaction	Not applicable.
	Buffer	
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION	Not applicable.
	Indexing Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.

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SECTION 9: Physical and chemical properties

Upper/lower flammability or explosive limits	RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.
	Indexing Plate	
	Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.	
HaloPlex HS Probe ION	Not available.	

Flash point

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
BSA Solution				
Glycerol			177	
Hybridization Solution				
Formamide			152	DIN EN ISO 2592
HS Hybridization Stop Solution				
Polyethylene glycol	171 to 235		199 to 238	
HS DNA Ligase				
Glycerol			177	
HS Capture Solution				
Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	>100			
Herculase II Fusion DNA Polymerase				
Glycerol			177	
Enzyme Strip 1				
Glycerol			177	

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SECTION 9: Physical and chemical properties

Auto-ignition temperature	Enzyme Strip 2				
	Glycerol			177	

Auto-ignition temperature	Ingredient name	°C	Method
	RE Buffer		
	potassium acetate	>410	EU A.16
	BSA Solution		
	Glycerol	370	
	Hybridization Solution		
	Formamide	>500	ASTM D 2155-66
	HS Hybridization Stop Solution		
	Polyethylene glycol	360	
	HS DNA Ligase		
	Glycerol	370	
	Herculase II Fusion DNA Polymerase		
	Glycerol	370	
	Enzyme Strip 1		
	Glycerol	370	
	Enzyme Strip 2		
	Glycerol	370	

Decomposition temperature	Ingredient name	Decomposition temperature
	RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION	Not available.

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SECTION 9: Physical and chemical properties

		Indexing Plate	
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.
pH	:	RE Buffer	7.9
		BSA Solution	7
		Enrichment Control DNA	Not available.
		Hybridization Solution	7.5
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	7
		HS Ligation Solution	8
		HS DNA Ligase	7.5
		HS Capture Solution	7.5
		HS Wash 1 Solution	Not available.
		HS Wash 2 Solution	8.5
		Primer 1 ION	Not available.
		Primer 2 ION	Not available.
		HS Elution Buffer	8.5
		Herculase II Fusion DNA Polymerase	8.2
		Herculase II Reaction Buffer	10
		100 mM dNTP Mix	7.5
		HaloPlex HS ION	Not available.
		Indexing Plate	
		Enzyme Strip 1	7.4
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.
Viscosity	:	RE Buffer	Not available.
		BSA Solution	Not available.
		Enrichment Control DNA	Not available.
		Hybridization Solution	Not available.
		HS Hybridization Stop Solution	Not available.
		10 mM rATP	Not available.
		HS Ligation Solution	Not available.
		HS DNA Ligase	Not available.
		HS Capture Solution	Not available.
		HS Wash 1 Solution	Not available.
		HS Wash 2 Solution	Not available.
		Primer 1 ION	Not available.
		Primer 2 ION	Not available.
		HS Elution Buffer	Not available.
		Herculase II Fusion DNA Polymerase	Not available.
		Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix	Not available.
		HaloPlex HS ION	Not available.
		Indexing Plate	
		Enzyme Strip 1	Not available.
		Enzyme Strip 2	Not available.
		HaloPlex HS Probe ION	Not available.

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SECTION 9: Physical and chemical properties

Solubility(ies)	Media	Result
	RE Buffer water	Soluble
	BSA Solution water	Soluble
	Enrichment Control DNA water	Soluble
	Hybridization Solution water	Soluble
	HS Hybridization Stop Solution water	Soluble
	10 mM rATP water	Soluble
	HS Ligation Solution water	Soluble
	HS DNA Ligase water	Soluble
	HS Capture Solution water	Soluble
	HS Wash 1 Solution water	Soluble
	HS Wash 2 Solution water	Soluble
	Primer 1 ION water	Soluble
	Primer 2 ION water	Soluble
	HS Elution Buffer water	Soluble
	Herculase II Fusion DNA Polymerase water	Soluble
	Herculase II Reaction Buffer water	Soluble
	100 mM dNTP Mix water	Soluble
	HaloPlex HS ION Indexing Plate water	Soluble
	Enzyme Strip 1 water	Soluble
	Enzyme Strip 2 water	Soluble
	HaloPlex HS Probe ION water	Soluble

Partition coefficient: n-octanol/water	Media	Result
	RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Not applicable.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.

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SECTION 9: Physical and chemical properties

Herculase II Fusion DNA Polymerase Not applicable.
 Herculase II Reaction Buffer Not applicable.
 100 mM dNTP Mix Not applicable.
 HaloPlex HS ION Indexing Plate Not applicable.
 Enzyme Strip 1 Not applicable.
 Enzyme Strip 2 Not applicable.
 HaloPlex HS Probe ION Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
RE Buffer						
water	23.8	3.2		92.258	12.3	
potassium acetate	0.000000013	0.0000000017				
BSA Solution						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
Enrichment Control DNA						
water	23.8	3.2		92.258	12.3	
Hybridization Solution						
water	23.8	3.2		92.258	12.3	
Formamide	0.05	0.0067				
HS Hybridization Stop Solution						
water	23.8	3.2		92.258	12.3	
Polyethylene glycol	0	0				
10 mM rATP						
water	23.8	3.2		92.258	12.3	
HS Ligation Solution						
water	23.8	3.2		92.258	12.3	
HS DNA Ligase						
water	23.8	3.2		92.258	12.3	

SECTION 9: Physical and chemical properties

Glycerol	0.000075	0.00001		0.0025	0.00033
HS Capture Solution					
water	23.8	3.2		92.258	12.3
HS Wash 1 Solution					
water	23.8	3.2		92.258	12.3
HS Wash 2 Solution					
water	23.8	3.2		92.258	12.3
Primer 1 ION					
water	23.8	3.2		92.258	12.3
Primer 2 ION					
water	23.8	3.2		92.258	12.3
HS Elution Buffer					
water	23.8	3.2		92.258	12.3
Herculase II Fusion DNA Polymerase					
water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
Herculase II Reaction Buffer					
water	23.8	3.2		92.258	12.3
Trometamol	<0.00075006	<0.0001			
100 mM dNTP Mix					
water	23.8	3.2		92.258	12.3
HaloPlex HS ION Indexing Plate					
water	23.8	3.2		92.258	12.3
Enzyme Strip 1					

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SECTION 9: Physical and chemical properties

water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
Enzyme Strip 2					
water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
HaloPlex HS Probe ION					
water	23.8	3.2		92.258	12.3

Evaporation rate :

- RE Buffer Not available.
- BSA Solution Not available.
- Enrichment Control DNA Not available.
- Hybridization Solution Not available.
- HS Hybridization Stop Solution Not available.
- 10 mM rATP Not available.
- HS Ligation Solution Not available.
- HS DNA Ligase Not available.
- HS Capture Solution Not available.
- HS Wash 1 Solution Not available.
- HS Wash 2 Solution Not available.
- Primer 1 ION Not available.
- Primer 2 ION Not available.
- HS Elution Buffer Not available.
- Herculase II Fusion DNA Polymerase Not available.
- Herculase II Reaction Buffer Not available.
- 100 mM dNTP Mix Not available.
- HaloPlex HS ION Not available.
- Indexing Plate Not available.
- Enzyme Strip 1 Not available.
- Enzyme Strip 2 Not available.
- HaloPlex HS Probe ION Not available.

Relative density :

- RE Buffer Not available.
- BSA Solution Not available.
- Enrichment Control DNA Not available.
- Hybridization Solution Not available.
- HS Hybridization Stop Solution Not available.
- 10 mM rATP Not available.
- HS Ligation Solution Not available.
- HS DNA Ligase Not available.
- HS Capture Solution Not available.
- HS Wash 1 Solution Not available.
- HS Wash 2 Solution Not available.
- Primer 1 ION Not available.
- Primer 2 ION Not available.
- HS Elution Buffer Not available.
- Herculase II Fusion DNA Polymerase Not available.
- Herculase II Reaction Buffer Not available.
- 100 mM dNTP Mix Not available.
- HaloPlex HS ION Not available.
- Indexing Plate Not available.
- Enzyme Strip 1 Not available.

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SECTION 9: Physical and chemical properties

	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Vapour density	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION Indexing Plate	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Explosive properties	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.
	HS Wash 2 Solution	Not available.
	Primer 1 ION	Not available.
	Primer 2 ION	Not available.
	HS Elution Buffer	Not available.
	Herculase II Fusion DNA Polymerase	Not available.
	Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix	Not available.
	HaloPlex HS ION Indexing Plate	Not available.
	Enzyme Strip 1	Not available.
	Enzyme Strip 2	Not available.
	HaloPlex HS Probe ION	Not available.
Oxidising properties	: RE Buffer	Not available.
	BSA Solution	Not available.
	Enrichment Control DNA	Not available.
	Hybridization Solution	Not available.
	HS Hybridization Stop Solution	Not available.
	10 mM rATP	Not available.
	HS Ligation Solution	Not available.
	HS DNA Ligase	Not available.
	HS Capture Solution	Not available.
	HS Wash 1 Solution	Not available.

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SECTION 9: Physical and chemical properties

HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA Polymerase	Not available.
Herculase II Reaction Buffer	Not available.
100 mM dNTP Mix	Not available.
HaloPlex HS ION	Not available.
Indexing Plate	
Enzyme Strip 1	Not available.
Enzyme Strip 2	Not available.
HaloPlex HS Probe ION	Not available.

Particle characteristics

Median particle size

<input checked="" type="checkbox"/> RE Buffer	Not applicable.
BSA Solution	Not applicable.
Enrichment Control DNA	Not applicable.
Hybridization Solution	Not applicable.
HS Hybridization Stop Solution	Not applicable.
10 mM rATP	Not applicable.
HS Ligation Solution	Not applicable.
HS DNA Ligase	Not applicable.
HS Capture Solution	Not applicable.
HS Wash 1 Solution	Not applicable.
HS Wash 2 Solution	Not applicable.
Primer 1 ION	Not applicable.
Primer 2 ION	Not applicable.
HS Elution Buffer	Not applicable.
Herculase II Fusion DNA Polymerase	Not applicable.
Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
HaloPlex HS ION	Not applicable.
Indexing Plate	
Enzyme Strip 1	Not applicable.
Enzyme Strip 2	Not applicable.
HaloPlex HS Probe ION	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

<input checked="" type="checkbox"/> RE Buffer	No specific test data related to reactivity available for this product or its ingredients.
BSA Solution	No specific test data related to reactivity available for this product or its ingredients.
Enrichment Control DNA	No specific test data related to reactivity available for this product or its ingredients.
Hybridization Solution	No specific test data related to reactivity available for this product or its ingredients.
HS Hybridization Stop Solution	No specific test data related to reactivity available for this product or its ingredients.
10 mM rATP	No specific test data related to reactivity available for this product or its ingredients.
HS Ligation Solution	No specific test data related to reactivity available for this product or its ingredients.
HS DNA Ligase	No specific test data related to reactivity available for this product or its ingredients.
HS Capture Solution	No specific test data related to reactivity available for this product or its ingredients.

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SECTION 10: Stability and reactivity

HS Wash 1 Solution	product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
HS Wash 2 Solution	No specific test data related to reactivity available for this product or its ingredients.
Primer 1 ION	No specific test data related to reactivity available for this product or its ingredients.
Primer 2 ION	No specific test data related to reactivity available for this product or its ingredients.
HS Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.
Herculase II Fusion DNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
Herculase II Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
100 mM dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
HaloPlex HS ION Indexing Plate	No specific test data related to reactivity available for this product or its ingredients.
Enzyme Strip 1	No specific test data related to reactivity available for this product or its ingredients.
Enzyme Strip 2	No specific test data related to reactivity available for this product or its ingredients.
HaloPlex HS Probe ION	No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

RE Buffer	The product is stable.
BSA Solution	The product is stable.
Enrichment Control DNA Hybridization Solution	The product is stable.
HS Hybridization Stop Solution	The product is stable.
10 mM rATP	The product is stable.
HS Ligation Solution	The product is stable.
HS DNA Ligase	The product is stable.
HS Capture Solution	The product is stable.
HS Wash 1 Solution	The product is stable.
HS Wash 2 Solution	The product is stable.
Primer 1 ION	The product is stable.
Primer 2 ION	The product is stable.
HS Elution Buffer	The product is stable.
Herculase II Fusion DNA Polymerase	The product is stable.
Herculase II Reaction Buffer	The product is stable.
100 mM dNTP Mix	The product is stable.
HaloPlex HS ION Indexing Plate	The product is stable.
Enzyme Strip 1	The product is stable.
Enzyme Strip 2	The product is stable.
HaloPlex HS Probe ION	The product is stable.

10.3 Possibility of hazardous reactions

RE Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
BSA Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Enrichment Control DNA Hybridization Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
HS Hybridization Stop Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
10 mM rATP	Under normal conditions of storage and use, hazardous

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SECTION 10: Stability and reactivity

	reactions will not occur.
HS Ligation Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
HS DNA Ligase	Under normal conditions of storage and use, hazardous reactions will not occur.
HS Capture Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
HS Wash 1 Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
HS Wash 2 Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
Primer 1 ION	Under normal conditions of storage and use, hazardous reactions will not occur.
Primer 2 ION	Under normal conditions of storage and use, hazardous reactions will not occur.
HS Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
100 mM dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex HS ION Indexing Plate	Under normal conditions of storage and use, hazardous reactions will not occur.
Enzyme Strip 1	Under normal conditions of storage and use, hazardous reactions will not occur.
Enzyme Strip 2	Under normal conditions of storage and use, hazardous reactions will not occur.
HaloPlex HS Probe ION	Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

RE Buffer	No specific data.
BSA Solution	No specific data.
Enrichment Control DNA Hybridization Solution	No specific data.
HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION Indexing Plate	No specific data.
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

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SECTION 10: Stability and reactivity

10.5 Incompatible materials

: RE Buffer	May react or be incompatible with oxidising materials.
BSA Solution	May react or be incompatible with oxidising materials.
Enrichment Control DNA	May react or be incompatible with oxidising materials.
Hybridization Solution	May react or be incompatible with oxidising materials.
HS Hybridization Stop Solution	May react or be incompatible with oxidising materials.
10 mM rATP	May react or be incompatible with oxidising materials.
HS Ligation Solution	May react or be incompatible with oxidising materials.
HS DNA Ligase	May react or be incompatible with oxidising materials.
HS Capture Solution	May react or be incompatible with oxidising materials.
HS Wash 1 Solution	May react or be incompatible with oxidising materials.
HS Wash 2 Solution	May react or be incompatible with oxidising materials.
Primer 1 ION	May react or be incompatible with oxidising materials.
Primer 2 ION	May react or be incompatible with oxidising materials.
HS Elution Buffer	May react or be incompatible with oxidising materials.
Herculase II Fusion DNA Polymerase	May react or be incompatible with oxidising materials.
Herculase II Reaction Buffer	May react or be incompatible with oxidising materials.
100 mM dNTP Mix	May react or be incompatible with oxidising materials.
HaloPlex HS ION Indexing Plate	May react or be incompatible with oxidising materials.
Enzyme Strip 1	May react or be incompatible with oxidising materials.
Enzyme Strip 2	May react or be incompatible with oxidising materials.
HaloPlex HS Probe ION	May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

: RE Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
BSA Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enrichment Control DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hybridization Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Hybridization Stop Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
10 mM rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Ligation Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Capture Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Wash 1 Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Wash 2 Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Primer 1 ION	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Primer 2 ION	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HS Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
100 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
HaloPlex HS ION Indexing Plate	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Enzyme Strip 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 10: Stability and reactivity

Enzyme Strip 2 Under normal conditions of storage and use, hazardous decomposition products should not be produced.
 HaloPlex HS Probe ION Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
BSA Solution Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Hybridization Solution Formamide	LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat - Male Rabbit Rat	>21 mg/l 17 g/kg 4000 mg/kg	4 hours - -
HS DNA Ligase Glycerol Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	LD50 Oral LD50 Oral	Rat Rat	12600 mg/kg 2800 mg/kg	- -
Herculase II Fusion DNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Herculase II Reaction Buffer Ammonium sulphate Trometamol	LD50 Oral LD50 Dermal	Rat Rat	2840 mg/kg >5000 mg/kg	- -
Enzyme Strip 1 Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Enzyme Strip 2 Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
BSA Solution Glycerol	12600	N/A	N/A	N/A	N/A
Hybridization Solution Formamide	4000	17000	N/A	N/A	N/A
HS DNA Ligase Glycerol Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	12600 500	N/A N/A	N/A N/A	N/A N/A	N/A N/A
HS Capture Solution HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	N/A 2214.37	N/A N/A	N/A N/A	117.0 11	N/A N/A
Herculase II Fusion DNA Polymerase					

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Glycerol	12600	N/A	N/A	N/A	N/A
Herculase II Reaction Buffer Ammonium sulphate	2840	N/A	N/A	N/A	N/A
Enzyme Strip 1 Glycerol	12600	N/A	N/A	N/A	N/A
Enzyme Strip 2 Glycerol	12600	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
BSA Solution Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Hybridization Solution Formamide	Eyes - Severe irritant	Rabbit	-	100 mg	-
HS DNA Ligase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-
Herculase II Fusion DNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Herculase II Reaction Buffer Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
Enzyme Strip 1 Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Enzyme Strip 2 Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

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SECTION 11: Toxicological information

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hybridization Solution Formamide	Category 2	oral	blood
HS Capture Solution Acetic acid, (ethylenedinitrilo)tetra-, disodium salt, dihydrate	Category 2	inhalation	respiratory tract

Aspiration hazard

Not available.

Information on likely routes of exposure

RE Buffer	Not available.
BSA Solution	Not available.
Enrichment Control DNA	Not available.
Hybridization Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Hybridization Stop Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
10 mM rATP	Not available.
HS Ligation Solution	Not available.
HS DNA Ligase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Capture Solution	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HS Wash 1 Solution	Not available.
HS Wash 2 Solution	Not available.
Primer 1 ION	Not available.
Primer 2 ION	Not available.
HS Elution Buffer	Not available.
Herculase II Fusion DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Herculase II Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
100 mM dNTP Mix	Not available.
HaloPlex HS ION Indexing Plate	Not available.
Enzyme Strip 1	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
Enzyme Strip 2	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
HaloPlex HS Probe ION	Not available.

Potential acute health effects

Inhalation

RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA	No known significant effects or critical hazards.
Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.
HS Wash 1 Solution	No known significant effects or critical hazards.
HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA	No known significant effects or critical hazards.

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Ingestion

Polymerase	
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.
RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.
HS Wash 1 Solution	No known significant effects or critical hazards.
HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

Skin contact

RE Buffer	No known significant effects or critical hazards.
BSA Solution	No known significant effects or critical hazards.
Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
HS Hybridization Stop Solution	No known significant effects or critical hazards.
10 mM rATP	No known significant effects or critical hazards.
HS Ligation Solution	No known significant effects or critical hazards.
HS DNA Ligase	No known significant effects or critical hazards.
HS Capture Solution	No known significant effects or critical hazards.
HS Wash 1 Solution	No known significant effects or critical hazards.
HS Wash 2 Solution	No known significant effects or critical hazards.
Primer 1 ION	No known significant effects or critical hazards.
Primer 2 ION	No known significant effects or critical hazards.
HS Elution Buffer	No known significant effects or critical hazards.
Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
Herculase II Reaction Buffer	No known significant effects or critical hazards.
100 mM dNTP Mix	No known significant effects or critical hazards.
HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
Enzyme Strip 1	No known significant effects or critical hazards.
Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Eye contact	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA	No known significant effects or critical hazards.
		Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	No known significant effects or critical hazards.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix	No known significant effects or critical hazards.
		HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.		

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	RE Buffer	No specific data.
		BSA Solution	No specific data.
		Enrichment Control DNA	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		HS Hybridization Stop Solution	No specific data.
		10 mM rATP	No specific data.
		HS Ligation Solution	No specific data.
		HS DNA Ligase	No specific data.
		HS Capture Solution	No specific data.
		HS Wash 1 Solution	No specific data.
		HS Wash 2 Solution	No specific data.
		Primer 1 ION	No specific data.
		Primer 2 ION	No specific data.
		HS Elution Buffer	No specific data.
		Herculase II Fusion DNA Polymerase	No specific data.
		Herculase II Reaction Buffer	No specific data.
		100 mM dNTP Mix	No specific data.
		HaloPlex HS ION Indexing Plate	No specific data.
		Enzyme Strip 1	No specific data.
		Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.		
Ingestion	:	RE Buffer	No specific data.
		BSA Solution	No specific data.
		Enrichment Control DNA	No specific data.
		Hybridization Solution	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
		HS Hybridization Stop	No specific data.

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Solution	
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA	No specific data.
Polymerase	
Herculase II Reaction	No specific data.
Buffer	
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

Skin contact

:	RE Buffer	No specific data.
	BSA Solution	No specific data.
	Enrichment Control DNA	No specific data.
	Hybridization Solution	Adverse symptoms may include the following:

- reduced foetal weight
- increase in foetal deaths
- skeletal malformations

HS Hybridization Stop Solution	No specific data.
10 mM rATP	No specific data.
HS Ligation Solution	No specific data.
HS DNA Ligase	No specific data.
HS Capture Solution	No specific data.
HS Wash 1 Solution	No specific data.
HS Wash 2 Solution	No specific data.
Primer 1 ION	No specific data.
Primer 2 ION	No specific data.
HS Elution Buffer	No specific data.
Herculase II Fusion DNA	No specific data.
Polymerase	
Herculase II Reaction	No specific data.
Buffer	
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

Eye contact

:	RE Buffer	No specific data.
	BSA Solution	No specific data.
	Enrichment Control DNA	No specific data.
	Hybridization Solution	No specific data.
	HS Hybridization Stop Solution	No specific data.
	10 mM rATP	No specific data.
	HS Ligation Solution	No specific data.
	HS DNA Ligase	No specific data.
	HS Capture Solution	No specific data.
	HS Wash 1 Solution	No specific data.
	HS Wash 2 Solution	No specific data.
	Primer 1 ION	No specific data.
	Primer 2 ION	No specific data.
	HS Elution Buffer	No specific data.

HaloPlex HS Target Enrichment Kits - ION - 96 reactions

SECTION 11: Toxicological information

Herculase II Fusion DNA Polymerase	No specific data.
Herculase II Reaction Buffer	No specific data.
100 mM dNTP Mix	No specific data.
HaloPlex HS ION	No specific data.
Indexing Plate	
Enzyme Strip 1	No specific data.
Enzyme Strip 2	No specific data.
HaloPlex HS Probe ION	No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	May cause damage to organs through prolonged or repeated exposure.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.
		HS Wash 2 Solution	No known significant effects or critical hazards.
		Primer 1 ION	No known significant effects or critical hazards.
		Primer 2 ION	No known significant effects or critical hazards.
		HS Elution Buffer	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix	No known significant effects or critical hazards.
		HaloPlex HS ION	No known significant effects or critical hazards.
		Indexing Plate	
		Enzyme Strip 1	No known significant effects or critical hazards.
		Enzyme Strip 2	No known significant effects or critical hazards.
HaloPlex HS Probe ION	No known significant effects or critical hazards.		
Carcinogenicity	:	RE Buffer	No known significant effects or critical hazards.
		BSA Solution	No known significant effects or critical hazards.
		Enrichment Control DNA Hybridization Solution	No known significant effects or critical hazards.
		HS Hybridization Stop Solution	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
		10 mM rATP	No known significant effects or critical hazards.
		HS Ligation Solution	No known significant effects or critical hazards.
		HS DNA Ligase	No known significant effects or critical hazards.
		HS Capture Solution	No known significant effects or critical hazards.
		HS Wash 1 Solution	No known significant effects or critical hazards.

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SECTION 11: Toxicological information

	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
	HaloPlex HS Probe ION	No known significant effects or critical hazards.
Mutagenicity	: RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	No known significant effects or critical hazards.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.
	HaloPlex HS Probe ION	No known significant effects or critical hazards.
Reproductive toxicity	: RE Buffer	No known significant effects or critical hazards.
	BSA Solution	No known significant effects or critical hazards.
	Enrichment Control DNA	No known significant effects or critical hazards.
	Hybridization Solution	May damage the unborn child.
	HS Hybridization Stop Solution	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	HS Ligation Solution	No known significant effects or critical hazards.
	HS DNA Ligase	No known significant effects or critical hazards.
	HS Capture Solution	No known significant effects or critical hazards.
	HS Wash 1 Solution	No known significant effects or critical hazards.
	HS Wash 2 Solution	No known significant effects or critical hazards.
	Primer 1 ION	No known significant effects or critical hazards.
	Primer 2 ION	No known significant effects or critical hazards.
	HS Elution Buffer	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	HaloPlex HS ION Indexing Plate	No known significant effects or critical hazards.
	Enzyme Strip 1	No known significant effects or critical hazards.
	Enzyme Strip 2	No known significant effects or critical hazards.

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SECTION 11: Toxicological information

HaloPlex HS Probe ION No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
BSA Solution Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
HS DNA Ligase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - Green algae - Selenastrum sp.	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Aesop shrimp - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 µg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
HS Capture Solution Acetic acid, (ethylenedinitrilo) tetra-, disodium salt, dihydrate	Chronic NOEC 25 mg/l Fresh water	Daphnia	21 days
Herculase II Fusion DNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
Herculase II Reaction Buffer Ammonium sulphate	Chronic NOEC 7.5 mg/l Marine water	Algae - Diatom - Phaeodactylum tricornutum - Exponential growth phase	96 hours
Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
Enzyme Strip 1 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
Enzyme Strip 2 Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
BSA Solution Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Hybridization Solution Formamide	OECD 301A Ready	99 % - Readily - 28 days	-	-

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HS DNA Ligase Glycerol	Biodegradability - DOC Die-Away Test	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Herculase II Fusion DNA Polymerase Glycerol	301D Ready Biodegradability - Closed Bottle Test	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Herculase II Reaction Buffer Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-
Enzyme Strip 1 Glycerol	301D Ready Biodegradability - Closed Bottle Test	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Enzyme Strip 2 Glycerol	301D Ready Biodegradability - Closed Bottle Test	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hybridization Solution Formamide	-	-	Readily
Herculase II Reaction Buffer Ammonium sulphate Trometamol	- -	- -	Readily Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
BSA Solution Glycerol	-1.76	-	low
Hybridization Solution Formamide	-0.82	-	low
HS DNA Ligase Glycerol	-1.76	-	low
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	low

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SECTION 12: Ecological information

Herculase II Fusion DNA Polymerase Glycerol	-1.76	-	low
Herculase II Reaction Buffer Ammonium sulphate Trometamol	-5.1 -2.31	- -	low low
Enzyme Strip 1 Glycerol	-1.76	-	low
Enzyme Strip 2 Glycerol	-1.76	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : Dispose of material(s) and residues under controlled conditions. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-

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SECTION 14: Transport information

14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
Hybridization Solution Toxic to reproduction	formamide	Candidate	-	6/18/2012
HS DNA Ligase Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Candidate	-	12/19/2012

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Ingredient name	CAS no.	Status
Hybridization Solution Hybridization Solution		30
Herculase II Reaction Buffer Ammonium sulphate	7783-20-2	65

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SECTION 15: Regulatory information

Label	: RE Buffer	Not applicable.
	BSA Solution	Not applicable.
	Enrichment Control DNA	Not applicable.
	Hybridization Solution	Restricted to professional users.
	HS Hybridization Stop Solution	Not applicable.
	10 mM rATP	Not applicable.
	HS Ligation Solution	Not applicable.
	HS DNA Ligase	Not applicable.
	HS Capture Solution	Not applicable.
	HS Wash 1 Solution	Not applicable.
	HS Wash 2 Solution	Not applicable.
	Primer 1 ION	Not applicable.
	Primer 2 ION	Not applicable.
	HS Elution Buffer	Not applicable.
	Herculase II Fusion DNA	Not applicable.
	Polymerase	
	Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	HaloPlex HS ION Indexing	Not applicable.
	Plate	
	Enzyme Strip 1	Not applicable.
	Enzyme Strip 2	Not applicable.
	HaloPlex HS Probe ION	Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Eurasian Economic Union	: Russian Federation inventory : Not determined.

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SECTION 15: Regulatory information

- Japan** : **Japan inventory (CSCL):** Not determined.
Japan inventory (ISHL): Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** : Not determined.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

- Abbreviations and acronyms** :
- ATE = Acute Toxicity Estimate
 - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 - DMEL = Derived Minimal Effect Level
 - DNEL = Derived No Effect Level
 - EUH statement = CLP-specific Hazard statement
 - N/A = Not available
 - PBT = Persistent, Bioaccumulative and Toxic
 - PNEC = Predicted No Effect Concentration
 - RRN = REACH Registration Number
 - vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

Classification	Justification
Hybridization Solution Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

Hybridization Solution	
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
HS DNA Ligase	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
HS Capture Solution	
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
Herculase II Reaction Buffer	
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Full text of classifications

SECTION 16: Other information

Hybridization

Solution

Carc. 2	CARCINOGENICITY - Category 2
Repr. 1B	REPRODUCTIVE TOXICITY - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

HS DNA Ligase

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

HS Capture Solution

Acute Tox. 4	ACUTE TOXICITY - Category 4
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Herculase II

Reaction Buffer

Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

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